SEP 14 2006
PATENT & TRADEMARK OFFICE

REMARKS/ARGUMENTS

Claims 1-12 were again rejected under 35 U.S.C. § 103 as being obvious over Preston et al. and Breivogel et al., wherein Breivogel et al. was cited to suggest modifying Preston et al. to use adjusters to adjust the difference in height with respect to the dressing face between the reference planes. Following the arguments presented in the previous response against the obviousness of combining Preston et al. with Breivogel et al., the Office Action stated (paragraph 4) that the "Examiner fails to understand how, in adjusting the shanks to vary the depth of groove, the adjusters are not also 'serving to adjust the difference in height with respect to the dressing face between the reference planes of the respective abrasive grain units.'" In fact, it would not have been obvious to have modified Preston et al. in view of Breivogel et al. for at least the following reasons.

Prior art references can be combined only to the extent that they are directed to the same or analogous prior art. Analogous prior art is that which is reasonably pertinent to the particular problem with which the inventor was concerned M.P.E.P. §2141.01(a). Preston et al. relates to a polishing tool for forming workpieces such as plastic or glass lenses, stone, concrete or ceramics (column 1, lines 13-15). Such polishing tools for workpieces are subject to wear rates which are related to the area of the grinding surface (column 1, lines 36-38).

Preston et al. teaches that there is a continuing need for improved grinding tools. In particular, there is a need to be able to vary the area of the grinding surface of a grinding tool to allow the tool to be able to achieve relatively high grinding speeds while retaining a relatively long life. Also, there is a need to be able to reduce the portion of the work surface of a grinding tool which has abrasive particles so that the tool can be efficiently manufactured. (Column 1,lines 50-57). To this end, Preston et al. provides that each segment is attached to the mounting plate such that its face forms an angle with the mounting plate.

Breivogel et al., on the other hand, is not directed to a tool for forming workpieces, but is instead directed to the conditioning of a semiconductor polishing pad. Polishing pads used for wafer planarization suffer from a reduction in polishing rate and uniformity due to a loss in surface roughness. It had therefore been known to condition the polishing pads by forming a plurality of microgrooves in the upper polishing pad surface prior to polishing (see Breivogel et al., paragraph bridging columns 1-2). Breivogel et al. proposes a method of pad conditioning in which an arm 221 is oscillated using a conditioning block 222 having four diamond chips 234.

It may therefore be appreciated that Breivogel et al. and Preston et al. are not analogous prior art since they present substantially different problems to the would-be inventor. Specifically, Preston et al. is concerned with increasing the grinding speed and life of a grinding tool. Breivogel et al., on the other hand, is directed to the entirely different problem of conditioning a wafer polishing pad. Therefore, as a threshold matter, Preston et al. and Breivogel et al. are in non-analogous arts, and one skilled in the art would not have even considered drawing teachings from one for modifying the other.

Additionally, Breivogel et al. addresses the problem of dressing or conditioning an abrasive cloth in a manner which is different from that of the present invention. In particular, Breivogel et al. teaches that a semiconductor polishing pad should be conditioned by oscillating an arm having diamond chips between the outer diameter of the polishing pad and the inner diameter thereof. On the other hand, the present invention arranges a plurality of abrasive grain units in the circumferential direction of the dressing face so that the height difference between the reference planes of the respective abrasive grain units can be adjusted. That is, Breivogel et al. teaches that the height of each diamond chip 234 can be adjusted in a single block 222, whereas the present invention adjusts the height difference between reference planes of a plurality of abrasive grain units. The invention therefore addresses this

problem in a significantly different way than in the prior art. The claims therefore define over the applied prior art.

Applicants therefore believe that the present application is in a condition for allowance and respectfully solicit an early Notice of Allowability.

Respectfully submitted,

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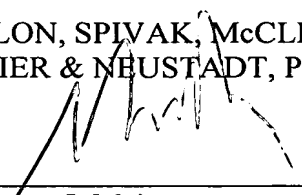

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